

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

INTERNATIONAL BUSINESS MACHINES
CORPORATION,

Plaintiff,

v.

GROUPON, INC.

Defendant.

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) **TGFC EVGF RWDNE XGTUQP**
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) C.A. No. 16-122-LPS-CJB
)
)
) JURY TRIAL DEMANDED
)

**ANSWERING BRIEF OF GROUPON, INC. IN OPPOSITION TO
MOTION FOR SUMMARY JUDGMENT OF NO INVALIDITY OF THE
ASSERTED CLAIMS OF U.S. PATENT NO. 5,961,601**

Of Counsel:

J. David Hadden
Saina S. Shamilov
Phillip J. Haack
Sapna Mehta
FENWICK & WEST LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
(650) 988-8500

ASHBY & GEDDES
John G. Day (#2403)
Andrew C. Mayo (#5207)
500 Delaware Avenue, 8th Floor
P.O. Box 1150
Wilmington, DE 19899
(302) 654-1888
jday@ashby-geddes.com
amayo@ashby-geddes.com

Attorneys for Defendant
GROUPON, INC.

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Groupon presents its opposition to IBM's motion for summary judgment that the asserted claims of U.S. Patent No. 5,961,601 (the "'601 patent") are not invalid.

NATURE AND STAGE OF THE PROCEEDINGS

The nature and stage of the proceedings is identical to the ones described in Groupon's Memorandum in Support of Motion for Summary Judgment filed on March 5, 2018. (D.I. 227.)

SUMMARY OF ARGUMENT

1. Because IBM ignores testimony of Mr. Davis, the developer of the Amazon prior art system, and Dr. Weissman's analysis of that system, IBM's motion for summary judgment fails.

2. And because IBM mischaracterizes Dr. Weissman's analysis of claims 9, 10, 58, 59, and that analysis shows that multiple prior art references disclosed those claims, IBM's request for summary judgment with respect to those claims should be denied.

STATEMENT OF FACTS¹

The '601 patent is titled "Preserving State Information in a Continuing Conversation Between a Client and Server Networked via a Stateless Protocol." (*See* Declaration of Saina Shamilov ("Shamilov Decl."), Ex. 1.) It describes and claims a way of preserving state information in a client-server conversation over a stateless protocol. A stateless protocol, such as HTTP, is one where a server handles each communication with the client as an independent event unrelated to other communications in the same session or conversation. In other words, the server knows only of the client request to which it is responding and has no memory of any requests that came before the one it is processing. To preserve that memory, or retain state information, for all communications in the same conversation, the '601 patent describes a method in which the server recursively embeds state information in each continuation (e.g., hyperlink) in its response to a client so that when a user selects a continuation (e.g., clicks on the hyperlink), the embedded state information

¹ As evidenced in this opposition, Groupon dispute IBM's purportedly "undisputed" facts. Those facts are incomplete and mischaracterize the record.

is returned back to the server. IBM asserts claims 1, 2, 4, 6, 7-10, 51, 52, 54, and 56-59. All asserted claims depend either from claim 1 or from claim 51. Claims 1 and 51 are of similar scope, but for claim 51 does not require “detecting when the request for a service requires preservation of the state information.”

The '601 patent was filed on June 7, 1996. Before that, in July of 1995, Amazon launched its now ubiquitous website www.amazon.com that allowed customers to browse and purchase books. Paul Davis was Amazon's second employee and one of two developers of Amazon's original website. (Shamilov Decl., Ex. 2 (“Davis Depo.”) at 17:8-10, 75:16-22.) He testified in this case.² He designed Amazon's website, wrote [REDACTED]

[REDACTED] (*Id.* at 204:21-205:9.) Amazon produced [REDACTED] in this action. (See Shamilov Decl., Exs. 5 and 6.) Mr. Davis wrote the vast majority of that source code and is “intimately familiar” with it. (Davis Depo. at 87:24-89:21, 204:21-205:9.) Although he left Amazon in the spring of 1996, he has reviewed that source code multiple times since: First in 2009, when he was a fact witness at a trial in this district addressing the operation of Amazon's website in 1995 and 1996. And again in 2014, when he was deposed in another case about the operation of the Amazon's website in 1995 and 1996. Mr. Davis also reviewed the source code this year before his deposition in this case.³

² Mr. Davis testified in a deposition in response to a subpoena issued by IBM. (Davis Depo. at 56:8-10; Shamilov Decl., Ex. 3.) In its motion, IBM refers to Mr. Davis as Groupon's “paid consultant,” apparently implying that he is biased. (D.I. 209 at 8.) Although Mr. Davis is retained as a consultant for Groupon, to date, [REDACTED] (Davis Depo. at 198:2-8, 25:16-26:15; Shamilov Decl., Ex. 4.)

³ The [REDACTED] Mr. Davis left the company in March of 1996, but based on his multiple reviews of the 1996 source code since that time, he confirmed that [REDACTED]

Groupon's technical expert, Dr. Jon Weissman, reviewed the source code Amazon produced in this case and discussed the website's operation with Mr. Davis. Dr. Weissman explained in his reports the relevant operations of the Amazon prior art website—the same operations are evident from the source code itself and were described by Mr. Davis in his deposition. (Shamilov Decl., Ex. 7 ¶¶ 20-23, 33-34; *Id.*, Ex. 8 at 208-215; *Id.*, Ex. 9 ¶¶ 254, 256-259; *Id.*, Ex. 10 (“Weissman Depo.”) at 56:12-25, 399:21-400:22.)

In 1995, like we do today, a customer visited Amazon's website using a web browser. The customer's web browser communicated with Amazon's server over the Internet. The server responded to the customer's requests with HTML webpages. The server [REDACTED]

[REDACTED] Thus, just like in the '601 patent, when the customer clicked on a hyperlink on Amazon's webpage, [REDACTED]

[REDACTED] (Ex. 8 at 210-211, 291.) As Mr. Davis testified, and [REDACTED] this session maintenance process worked the same way in 1995 and 1996. (Davis Depo. at 137:4-16; 168:21-169:12, 170:13-173:23.)

The 1995 version of Amazon's source code does not include [REDACTED]

[REDACTED] As Mr. Davis explained in his deposition, in 1995 [REDACTED]

[REDACTED] (Davis Depo. at 80:17-24, 81:19-23.)

[REDACTED] (*Id.* at 127:7-14.) [REDACTED]
[REDACTED] (*Id.* at 134:10-135:11.) Accordingly, the 1996 source code version produced by Amazon includes [REDACTED] Mr. Davis explained that [REDACTED] from 1996 were “significantly similar” [REDACTED] used by Amazon’s website in 1995. (*Id.* at 127:22-128:6.) He also explained that the source code in 1995 used [REDACTED]
[REDACTED] (*Id.* at 132:7-21.) Indeed, he testified that the [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] (*Id.* at 90:15-91:8.)

Dr. Weissman confirmed the same by comparing the relevant source code functions from 1995 and 1996. (Ex. 8 at 209-212; Ex. 9 ¶¶ 254, 257; Weissman Depo. at 402:14-18, 404:20-405:13, 411:8-412:6, 412:14-413:5.) He also confirmed that the 1995 source code used [REDACTED]
[REDACTED] (Ex. 8 at 211-212 & n.3; Ex. 9 ¶ 257; Weissman Depo. at 411:8-412:6, 412:14-413:5.) In light of that and Mr. Davis’s testimony, Dr. Weissman uses [REDACTED]

ARGUMENT

I. THE PARTIES DISPUTE MATERIAL FACTS ABOUT THE AMAZON PRIOR ART SYSTEM AND THOSE DISPUTES MUST BE RESOLVED BY THE JURY AT TRIAL.

To escape a finding of invalidity of the ’601 patent, IBM cherry-picks facts from the record to create an illusion that there is no dispute of any material fact. Because IBM ignores other facts—which contradict the very implications IBM appears to draw from the facts it selectively highlights—IBM’s request for summary judgment must be denied.

As an initial matter, IBM does not dispute that the website www.amazon.com was live before the ’601 patent, tracked session information between client requests, embedded session

information in hyperlinks, and used [REDACTED] IBM's argument of no invalidity in light of Amazon's prior art system boils down to two points. First, IBM argues Groupon cannot prove invalidity because [REDACTED]
[REDACTED] Second, IBM argues that even if [REDACTED] Groupon still cannot not prove invalidity because not all hyperlinks on the website included Session IDs. Neither supports IBM's request for summary judgment.

- A. **The 1995 [REDACTED] are not necessary for an invalidity analysis in this case and their absence, at best, goes to the weight of evidence for the jury to consider.**

Mr. Davis—the developer of Amazon's prior art system—testified that [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] Davis Depo. at 127:22-128:6, 129:22-130:5.) Further, he explained that because [REDACTED]
[REDACTED]
[REDACTED] (*Id.* at 133:10-20.) And, as Mr. Davis explained, [REDACTED]
[REDACTED]

(*Id.* at 128:8-129:9.)

Ignoring all of this highly relevant testimony from Mr. Davis, IBM states that “Mr. Davis explained he could provide ‘no corroborating proof’” of the fact that [REDACTED]

[REDACTED] (D.I. 209 at 9.) But, as shown by at least the excerpted testimony immediately above, Mr. Davis explained how the 1995 source code itself [REDACTED]

[REDACTED] That is certainly corroborating proof. Indeed, as Dr. Weissman explains in his supplemental report, Mr. Davis, who lacks any legal education, did not use the phrase “corroborating proof” in the same manner as it is used in the context of an invalidity analysis in patent law.

[REDACTED] (Ex. 7 at ¶ 16 (emphasis added).) In any event, whether “oral testimony is sufficiently corroborated” is “a question of fact” to be answered by the jury at trial. *TransWeb, LLC v. 3M Innovative Props. Co.*, 812 F.3d 1295, 1302 (Fed. Cir. 2016). Accordingly, it is up to the jury to assess Mr. Davis’s (unequivocal) testimony and Dr. Weissman’s analysis that the Amazon prior art system [REDACTED]

Dr. Weissman discussed the operation of the Amazon prior art system with Mr. Davis, reviewed the source code produced by Amazon, and reviewed Mr. Davis’s deposition testimony. In his reports, he explains that [REDACTED] in the 1995 Amazon source code is the one that [REDACTED] (Ex. 8 at 211.) [REDACTED]

[REDACTED] (*Id.*) Dr. Weissman confirmed that the same [REDACTED] is present in the 1996 Amazon source code. (*Id.* at n.3.) He compared both versions [REDACTED] and concluded that both versions, in 1995 and 1996, [REDACTED] (*Id.*)

He also confirmed with Mr. Davis what his source code review showed: that the functionality did not change between 1995 and 1996 with respect to the state management process employed by the Amazon prior art system. (*Id.* at 209; Ex. 9 ¶ 254; Ex. 7 ¶¶ 19, 29, 31, 34.)

Dr. Weissman reviewed the [REDACTED] in Amazon's 1996 source code production. In his reports, he describes [REDACTED] with specificity and explains [REDACTED]
[REDACTED]
[REDACTED] (Ex. 8 at 211-212.) He then confirms that the same [REDACTED] was used in the 1995 Amazon source code because the 1995 source code includes [REDACTED]
[REDACTED] (*Id.*) Dr. Weissman further compares [REDACTED]
[REDACTED]
(Ex. 7 ¶¶ 19, 29.) Dr. Weissman's reliance on the [REDACTED]
[REDACTED] (Davis Depo. at 129:22-130-5), merely goes to the weight of his testimony to be assessed by the jury at trial.

B. The parties dispute whether the Amazon prior art system embedded state information in “all continuations” on its pages—a factual dispute to be resolved by the jury.

Throughout its motion, to support its argument that the Amazon prior art system did not embed state information in “all continuations,” IBM uses “links” and “continuations” interchangeably, implying that because the Amazon system did not embed state information in all of the *links* on its webpages, it did not embed state information in all *continuations*. (*See, e.g.*, D.I. 209 at 10.) But not all links are the continuations recited in the claims. A “continuation” is “a new request

⁴ In his report, Dr. Weissman explains that any changes between the 1995 and 1996 source code files identified by IBM's technical expert are irrelevant to the session management analysis of the Amazon prior art system. (Ex. 9 ¶ 255.)

which a client may send to a server, such as, for example, a hyperlink.” (D.I. 120 at 10.) Thus, only links that send requests to servers are continuations; other links are not.

IBM excerpts Dr. Weissman’s deposition testimony as a purported admission that not all continuations on Amazon’s prior art webpages included state information. But a review of the transcript and Dr. Weissman’s reports shows that he repeatedly explained that all *continuations* in the Amazon prior art system embedded state information and that the *link* IBM’s counsel was asking about in the excerpted passage is *not* a continuation of the claim.

The first question and answer IBM excerpts in its motion is about [REDACTED] an Amazon source code file named [REDACTED] (D.I. 209 at 10 (citing Declaration of Brian D. Matty, Ex. G).) That line is as follows: [REDACTED] (Shamilov Decl., Ex. 12 at AMAZON-SC-000785, line 120.)⁵ It is a [REDACTED] (*Id.*) Its execution

[REDACTED] (Ex. 7 at ¶ 22.) IBM’s expert agrees. He testified that [REDACTED]

[REDACTED] (Shamilov Decl., Ex. 11 at 116:8-11.) In his reports, Dr. Weissman explains that [REDACTED]
[REDACTED]
[REDACTED] (Ex. 7 at ¶¶ 22-23; *see also* Ex. 8 at 212 (explaining that [REDACTED])

[REDACTED].) In his deposition, Dr. Weissman explained the same:

⁵ The source code file IBM attaches at Matty Decl., Ex. G is AMAZON-SC-000983-86; however, Exhibit 27 from Dr. Weissman’s deposition, discussed in the excerpted deposition testimony in IBM’s Brief, is AMAZON-SC-000783-86. (*See* Weissman Depo. at 261.) AMAZON-SC-000783-86 is attached to the Shamilov Decl. as Exhibit 12.

[REDACTED]

A. That's correct, because a construction of "continuation" is "a new request which a client may send to a server." So not all hyperlinks are requests that a client may send to a server. This particular one does not go back to the origin server – to continue that conversation. (Weissman Depo. at 465:14-466:3.)

[REDACTED]

[REDACTED]

And Mr. Davis explained that programmers would not even consider a mailto link a hyperlink, which the Court's construction identifies.

Q. Do you think what is [REDACTED] defines a hyperlink?

A. No.

Q. Why not?

A. I guess we – I should back up and ask you for a definition of the term "hyperlink," since we haven't defined that.

Q. I mean, I want to go by what you – as an early programmer in 1995 – one of the people who worked on the very early versions of the Amazon website, that is very familiar with web technology – I want to understand what you believe to be a hyperlink – because I think that's important. So [REDACTED]

THE WITNESS: [REDACTED]

Q. Okay. Why not?

A. It is not a reference to some – some resource other than the document in which it occurs.

(Davis Depo. at 155:1-156:1; *see also id.* at 161:24-162:1 [REDACTED])

[REDACTED] 153:19-154:22 (explaining that the [REDACTED] is not a hyperlink because it "is not designed to access some resource elsewhere on the web" and instead is "designed to invoke some action by the browser" such that

[REDACTED]

[REDACTED] 154:22-24 ("I don't believe many programmers, or programmers in general, would actually call this a hyperlink.").)

IBM also quotes a sentence from Dr. Weissman's expert report as a purported admission that not all continuations in the Amazon prior art system embedded state information. (D.I. 209 at 10.) But that excerpt does not even mention "continuations"; it addresses *links*. (*Id.* (quoting "I searched the [REDACTED]

[REDACTED] (emphasis added).) Dr. Weissman states that [REDACTED] [REDACTED] were the only *links* in Amazon's prior art system that did not include state information. He explains in his reports that [REDACTED] [REDACTED] accordingly are not 'continuations' under the Court's construction" and the [REDACTED] did not exist in in the Amazon *prior art* system. (Ex. 7 at ¶ 23.) Indeed, he addresses each link type individually when explaining why it is irrelevant to his analysis that these links did not include state information:

[REDACTED]

(*Id.* at ¶ 22.)

Dr. Weissman repeatedly explains in his reports that in Amazon's prior art system, all continuations included state information. (Ex. 8 at 291-293, 296, 299-300, 304-307; Ex. 9 at 72-76.) He also repeatedly testified in his deposition that the Amazon prior art system embedded state information in *all* continuations:

Q. Fair to say the Amazon source code that you reviewed did not embed state information in all hyperlinks?

A. I disagree with that statement. The construction of "continuation" is "a new request

which a client may send to a server, for example, a hyperlink,” not limited to a hyperlink, right. [REDACTED]

(Weissman Depo. at 415:13-21.)

Q. Let me withdraw my question and ask a slightly different one. [REDACTED]

A. [REDACTED]

Accordingly, Dr. Weissman’s testimony, taken out of context from his reports and his deposition, is not—and cannot be—an admission that the Amazon prior art system did not embed state information in all continuations.⁶

The parties dispute whether the Amazon prior art system embedded state information in all continuations. That dispute is for the jury to hear and resolve at trial.

II. THE PARTIES DISPUTE WHETHER THE PRIOR ART DISCLOSES CLAIMS 9, 10, 58, AND 59 AND THOSE DISPUTES MUST BE RESOLVED BY THE JURY AT TRIAL.

IBM also asks the Court to enter summary judgment of no invalidity of claims 9, 10, 58, and 59 because, as it argues, Groupon cannot show that the three prior art references, *Unleashed*, Amazon prior art system, and *Spinning the Web*,⁷ disclose (1) “filtering one of said hyperlinks and data output from said services according to a predetermined criteria” required by claims 9 and 58, and (2) “adding one of said hyperlinks and data to said output from said services according to a predetermined criteria” required by claims 58 and 59.⁸ But Dr. Weissman sufficiently explains

⁶ IBM’s argument is also directly contrary to the position it takes in its infringement case, arguing there that embedding state information in only a subset of continuations and not “all” continuations meets the limitations of the claims. (See D.I. 227 at 27-28.)

⁷ *Unleashed* is a reference book titled *HTML & CGI UNLEASHED* authored by John December and Mark Ginsburg and published 1995 and is an admitted prior art to the ’601 patent. (Shamilov Decl., Exs. 13-14.) *Spinning the Web* is a book authored in 1995 by Yuval Fisher and published on February 23, 1996. (Shamilov Decl., Exs. 15-16.)

⁸ The parties agreed to construe these phrases as “removing one of said hyperlinks and data output from said services according to criteria determined prior to removing” and “inserting one of said hyperlinks and data to said output from said services according to criteria determined prior to inserting,” respectively. (D.I. 64 at 25-26.)

how these references disclose these claim limitations in his reports and testified about his opinions in his deposition.

For example, Dr. Weissman explains that *Unleashed* describes how programmers could generate HTML webpages using CGI scripts. (Ex. 8 at 204-205.) The book includes several examples of script code. (*Id.*) One of those examples is a “CGI program for generating a series of web pages to allowing [*sic*] a user to ‘build[] a “dinner order””” called “menu.pl.” (*Id.* at 205.) Dr. Weissman includes that example in his analysis of claim 9 (and claim 58) and explains that “the menu.pl example filters the data output and links visible depending on user selection.” (*Id.* at 252.) As he explains, the program code includes conditional if-then statements that “will filter out any entrée with a price of zero.” (*Id.* at 252-253, 260.) He also describes another script example from *Unleashed*, the “shopping cart” script, which code also includes conditional statements and displays “only products which match the current selection” and filters out all others. (*Id.* at 253-255, 260.) Dr. Weissman explains that these programs in *Unleashed* also add hyperlinks per claims 10 and 59. (*Id.* at 255-256, 261.) In his deposition, Dr. Weissman testified that “in the context of this reference [*Unleashed*], an ‘if’ statement that serves to not include [a] hyperlink is filtering,” and “the step of adding one of said hyperlinks to said output I think is meant by the inclusion of that hyperlink in the output that goes back to the client.” (Weissman Depo. at 450:12-453:1; 454:16-20.) He also opined that it is “the output [that] contains the conditional presence of the hyperlink, and the step of filtering is, when that is executed, the hyperlink is not sent back, or if it is true, it is included.” (*Id.* at 454:24-455:6.) Thus, contrary to IBM’s assertion, Dr. Weissman did explain how conditional IF THEN statements in *Unleashed*’s CGI programs satisfy the filtering and adding requirements of claims 9, 10, 58, and 59.

Moreover, mapping several claim steps to CGI scripts is not improper because CGI scripts are *programs*, not single actions. Indeed, Dr. Weissman explains in his report, for example, that

statements other than the conditional statements in the scripts perform the embedding: “the shopping cart script, chips.pl retrieves a session ID from the PATH_INFO variable generated from the current URL ((`$path1, $session_id, $current, $code`) = `split(/\//, $ENV{PATH_INFO}`);) and embeds a session ID in each hyperlink on the generated pages.” (Ex. 8 at 228.) Dr. Weissman’s mapping is also entirely consistent with the Court’s claim construction order because he explained that the filtering takes place before the web page is generated, as *Unleashed’s* “CGI program[s] are] for generating a series of web pages.” (*Id.* at 205.)

Dr. Weissman’s analysis for the other two references IBM identifies, the Amazon prior art system and *Spinning the Web*, are similar in nature as he analyzes the [REDACTED] of those prior art references for generating web pages and identifies the locations where the filtering and adding takes place. (*See id.* at 277-79, 285-86, 301-03, 307-08.) For example, in the Amazon prior art system, Dr. Weissman explains that [REDACTED]
[REDACTED]
[REDACTED]. (*Id.* at 302-03.) And he explains that in the *Spinning the Web* book: the script “finds the template to be served in PATH_INFO, and it finds the client’s identifier in Query_String. It then filters the template, adding the identifier, and serves it up.” (*Id.* at 279.)

The fact that IBM disputes that the prior art references Dr. Weissman relies on disclose the limitations of claims 9, 10, 58, and 59 is an issue to be presented to the jury and not for the Court to decide at summary judgment.

CONCLUSION

For the foregoing reasons, Groupon respectfully requests the Court deny IBM’s motion for summary judgment.

Of Counsel:

J. David Hadden
Saina S. Shamilov
Phillip J. Haack
Sapna Mehta
FENWICK & WEST LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
(650) 988-8500

Dated: March 19, 2018

ASHBY & GEDDES

/s/ John G. Day

John G. Day (#2403)
Andrew C. Mayo (#5207)
500 Delaware Avenue, 8th Floor
P.O. Box 1150
Wilmington, DE 19899
(302) 654-1888
jday@ashby-geddes.com
amayo@ashby-geddes.com

Attorneys for Defendant
GROUPON, INC.